PUZZLES

Mobile Computing Multiple Choice Questions with Answers

1. It is defined as the process of transferring a call (or data transfer) in progress from one channel to another channel.
(a) Handover
(b) Handoff
(c) Roaming
(d) Both (a) and (b)
Ans. (d) both (a) and (b)

2. In this type of handover, the handover occurs between different cells but within the reach of the same BSC.
(a) Intra-cell handover
(b) Inter-cell, intra-BSC handover
(c) Inter-BSC, intra-MSC handover
(d) Inter MSC handover
Ans. (b) Inter-cell, intra-BSC handover

3. ____ effect is the repeated handover between two base stations.
Ans. Ping-pong

4. High-Speed Circuit Switched Data (HSCSD) uses connection-oriented traffic channels. (True/False)
Ans. True

5. In High-Speed Circuit Switched Data (HSCSD) several TDMA slots are allotted within a TDMA frame to bundle the ____ channels.
Ans. Traffic

6. For n channels, HSCSD requires n times signaling during handover, connection setup, and release. (True/False)
Ans. True

7. General Packet Radio Service (GPRS) technology exhibits traffic patterns in ____ mode.
Ans. packet

8. Depending on the coding, a transfer rate up to ____ kbit/s is possible in GPRS.
Ans. 170

9. In GPRS quality of service, the Reliability class ____ could be used if applications exhibit greater error tolerance.
Ans. 2

10. The function of Gateway GPRS Support Node (GGSN) is to connect____ network with the external packet data networks (PDN).
Ans. GPRS

11. The function of the GPRS register (GR) is to store all GPRS-relevant data. (True/False)
Ans. True

12. MS gets attached to the GPRS network by assigning a temporal identifier, called a ____, and a ____ for data encryption.
Ans. Temporary Logical Link Identity (TLLI), Ciphering Key Sequence Number (CKSN)

13. This protocol is used to adapt to the different characteristics of the underlying networks between an SGSN and the MS.
(a) Sub Network Dependent Convergence Protocol (SNDCP)
(b) Base Station Subsystem GPRS Protocol (BSSGP)
(c) Radio Link Protocol (RLC)
(d) GPRS Tunnelling Protocol (GTP).
Ans. (a) Sub Network Dependent Convergence Protocol (SNDCP)

14. All MSs are assigned private IP addresses which are then translated into ____ addresses at the GGSN.
Ans. global

15. These services of GSM permit transparent and non-transparent, synchronous or asynchronous data transmission.
(a) Bearer services
(b) Teleservices
(c) Supplementary services
(d) None of the above
Ans. (a) Bearer services

16. As the logical channels are all associated with user traffic, the multi-frame is called ____ multi-frame.
Ans. traffic

17. This layer of protocol architecture for signalling handles all radio-specific functions.
(a) The physical layer or layer 1
(b) LAPD or the Layer 2
(c) Call management (CM) layer
(d) Mobility management (MM) layer
Ans. (a) The physical layer or layer 1.

18. The main tasks of ____ are the setup, maintenance, and release of radio channels.
Ans. Radio Resource Management (RR)

19. Temporary Mobile Subscriber Identity (TMSI) replaces the ____ and hides the real identity of an MS user over the air interface.
Ans. International Mobile Subscriber Identity (IMSI)

20. Changing VLRs with uninterrupted availability of all services is also called ____.
Ans. roaming

21. The MSISDN follows the ITU-T standard and consists of: the country code (CC), ____, and ____.
Ans. the National Destination Code (NDC), the Subscriber Number (SN)

22. Mobile Terminated Call (MTC) is a situation in which a station calls a mobile station. (True/False)
Ans. True

23. A Mobile Station (MS) is connected to the GSM-PLMN via the ____ interface.
Ans. Um

24. The access network domain contains the ____.
Ans. Radio Access Networks (RAN)

25. The direct sequence (DS) CDMA technology spreads the signal and can separate different users by the use of a unique ____ sequence.
Ans. chipping

26. UMTS uses a constant chipping rate of ____ Mchip/s.
Ans. 3.84

27. How many chips do the radio frame structure of UTRA-FDD consist of?
(a) 38,400
(b) 64,000
(c) 512
(d) 1024
Ans. (a) 38,400

28. In the UTRA TDD (TD–CDMA) frame structure 15 slots with ____ chips per slot form a radio frame with a duration of 10 ms.
Ans. 2,560

29. A node B connects to one or more antennas creating one or more cells that can either use FDD or TDD or both. (True/False)
Ans. True

30. The CSD connects to the RNS via a part of the IU interface called ____.
Ans. IuCS

31. Which tunneling protocol is used to encapsulate all packets (e.g., IP, PPP) destined for the UE?
(a) GPRS Tunnelling Protocol (GTP)
(b) UMTS Tunnelling Protocol
(c) RNS Tunnelling Protocol
(d) Packet Data Convergence Protocol (PDCP)
Ans. (a) GPRS Tunnelling Protocol (GTP)

32. All inter-system handovers in UMTS are ____ handovers.
Ans. hard

33. Soft handover in UMTS is available only in the ____ mode.
Ans. FDD

34. This type of handover occurs when UE moves between different node B's of the same RNC.
(a) ntra-node B, intra-RNC
(b) Inter-node B, intra-RNC
(c) Inter-MSC
(d) Inter-system
Ans. (b) Inter-node B, intra-RNC

35. A data rate of ____ kbit/s per time slot is available in EDGE.
Ans. 48

36. The UMTS system is compatible with GSM, ATM, IP, and ISDN-based networks. (True/False)
Ans. True

37. The User Equipment domain of UMTS architecture consists of the ____ domain and the ____ equipment domain.
Ans. USIM, mobile

38. Which of the following is/are the example/s of WPANs?
(a) Bluetooth
(b) Zigbee
(c) WiMAX
(d) Both (a) and (b)
Ans. (d) both (a) and (b)

39. WLANs are standardized by the IEEE ____ standards.
Ans. 802.11x

40. WLANs are flexible as nodes can communicate without restriction within radio coverage. (True/False)
Ans. True

41. In Infrared technology, transmitters can be simple light-emitting diodes (LEDs) or ____ whereas ____ acts as receivers.
Ans. laser diodes, photodiodes

42. In Ad hoc network, an ____ comprises a group of stations using the same radio frequency.
Ans. Independent BSSs (IBSS)

43. IEEE 802.11 does not specify any special nodes that support routing, forwarding of data, or exchange of topology information. (True/False)
Ans. True

44. This standard defines Quality of service and prioritization.
(a) 802.11a
(b) 802.11e
(c) 802.11g
(d) 802.11af
Ans. (b) 802.11e

45. The PMD sub-layer of IEEE 802.11 protocol architecture and management handles ____ and ____ of signals.
Ans. modulation, encoding/decoding

46. IEEE 802.11n provides high-speed data transport at ____ Mbps peak.
Ans. 600

47. The frequency band used in WLANs is license-free and is called____ band.
Ans. ISM (Industrial, Scientific and Medical)

48. Radio transmission technology can offer much higher transmission rates than infra-red. (True/False)
Ans. True

49. In Infrastructure based networks, the function of the ____ point is to control the medium access.
Ans. access

50. Satellite-based cellular phones are also an example of an infrastructure-based networks. (True/False)
Ans. True

51. Mobile IP adds mobility support to the internet ____ layer protocol.
Ans. network

52. This term defines the current location of the MN from an IP point of view.
(a) Care-of address (COA)
(b) Correspondent node (CN)
(c) Home agent (HA)
(d) Home network
Ans. (a) Care-of Address (COA)

53. The tunnel for packets toward the MN starts at the HA. (True/False)
Ans. True

54. During IP packet delivery, the foreign agent (FA) removes the additional ____ and forwards the original packet with ____ as source and MN as the destination to the MN.
Ans. header, CN

55. Foreign agents and home agents advertise their presence periodically using special agent ____ messages.
Ans. advertisement

56. When the COA is at the FA, the MN sends its registration request containing the ____ to the FA which is forwarding the request to the HA.
Ans. Care-of Address (COA)

57. In this technique, an outer IP header is inserted before the datagram's existing IP header.
(a) IP-in-IP encapsulation
(b) Minimal encapsulation
(c) Generic Routing Encapsulation (GRE)
(d) None of the above
Ans. (a) IP-in-IP encapsulation

58. In the minimum encapsulation technique, a minimal forwarding header is defined for datagrams that are not fragmented prior to the encapsulation. (True/False)
Ans. True

59. One of the following mechanisms allows the encapsulation of packets of one protocol suite into the payload portion of a packet of another protocol suite.
(a) IP-in-IP encapsulation
(b) Minimal encapsulation
(c) Generic Routing Encapsulation (GRE)
(d) None of the above
Ans. (c) Generic Routing Encapsulation (GRE)

60. Binding update is the message sent by the ____ to CNs to reveal the current location of an MN.
Ans. Home Agent (HA)

61. To optimize the mobile IP, if a node decapsulates a packet for an MN, but it is not the current FA for this MN, this node sends a binding ____.
Ans. warning

62. DHCP allows hosts to obtain necessary TCP/IP configuration information from a ____ server.
Ans. DHCP

63. DHCP is based on a client/server model. (True/False)
Ans. True

64. In DHCP, a client sends requests using ____ broadcasts to reach all devices in the LAN.
Ans. Media Access Control (MAC)

65. The two basic variants of wireless networks especially in the case of WLANs are ____ and ____ based.
Ans. infrastructure-based, ad hoc

66. The extended network in infrastructure-based network IEEE 802.11 architecture is called a/an ____.
Ans. Extended Service Set (ESS)

67. The distribution system in an infrastructure-based network connects the wireless networks via the ____ and with a portal to form the interworking unit to other LANs.
Ans. Access points (APs)

68. In TCP, connection-oriented transmission requires three phases: ____, ____, and ____.
Ans. connection establishment, data transfer, connection termination

69. At what level does TCP uses flow and error control mechanisms?
(a) Physical level
(b) Data link level
(c) Network level
(d) Transport level
Ans. (d) transport level

70. Congestion control involves two factors that measure the performance of a network: ____ and ____.
Ans. delay, throughput